Infant Mortality and Issue Framing in South Linden, Columbus

Honors Research Thesis

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When public-private partnerships are utilized as a tool for proposing policy solutions to "wicked problems" in cities, frame asymmetry can arise as a result of competing stakeholder interpretations of the problem itself. In the case of Columbus, Ohio, a community health partnership was created to address the growing infant mortality crisis in neighborhoods such as South Linden. This approach to developing a city-wide policy solution brought about the following questions: How are the mobility needs of pregnant women in South Linden, an area notable for high rates of infant mortality, assessed by public decision makers? How does this differ from the ways in which these needs are assessed by service providers? If there are differences between the ways in which service providers and decision makers frame the issue of infant mortality reduction, are there differences between perceptions of resource accessibility and neighborhood needs for reducing infant mortality? Using a purposive, theoretical sampling approach to select key informants from pools of both decision makers and service providers directly related to the infant mortality crisis, key informant interviews were conducted to better understand how each group framed the issue of infant mortality, and how, if at all, these frames differed by informant groups. It was found that while decision makers in Columbus were more focused on addressing the infant mortality crisis through a series of mobility innovations, service providers spoke to the importance of the built environment and accessible neighborhood resources as a key part of reducing mortality rates. As a result, it is recommended that the community health partnership engage in frame reconciliation techniques to better address the asymmetries in their policy goals and issue framing.

Key words: social determinants of health, walkability, prenatal care, infant mortality, health equity, spatial mismatch, mobility, issue framing

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Introduction

Public-private partnerships have increasingly played a role in understanding and providing policy solutions to complex problems. Public-private partnerships bring multiple groups together to address what are deemed "wicked problems" due to their systemic and often multi-faceted nature. An example of this type of public-private partnerships are community health partnerships (Mitchell, 2000). A subcategory of public-private partnerships (PPPs), all of which bring together stakeholders from across the public and private sectors to collaboratively solve problems. PPPs are known to be an overarching term for any type of collaborative effort and can be as structured or as informal as the partnership requires (Reynaers, 2014). Community health partnerships (CPHs), a subcategory of PPPs, focus specifically on issues of public or community health in relation to the city or space in question. Consisting of local policymakers, stakeholder groups, and often citizens, these partnerships collaboratively design policy solutions often trying to target the root causes of wicked problems. With the inclusion of so many community leaders and organizations in a partnership, differing perspectives on the root causes of an issue can lead to disagreement in problem framing and proposed policy solutions. These disagreements arise due to various values or organizational priorities, stakeholder interests, or who was brought to the table as a member of a community partnership in the first place. While much research focuses on the shared motivations and policy goals as the glue that keeps collaborative actors working together (e.g., Emerson and Nabatchi, 2015), much less work has focused on the problem-setting of the actors themselves. As such, examining differences in framing of the problem between actors and the potential impact on addressing wicked problems is a ripe area for study.

The case study presented here means to address this gap. It focuses on a recent collaboration between groups focused on the infant mortality crisis in many Columbus, Ohio neighborhoods. In the case of Columbus, the community health partnership took form in a number of collaborative efforts on the city's behalf, including an infant mortality task force CelebrateOne and city-industry partnership Smart Columbus. Smart Columbus has led the national discussion on the idea of the "smart city", determining how innovations in technology have the potential to change the ways in which residents of cities move about their urban areas. With it, the "smart city" brings about a new understanding of how technology and mobility can challenge traditional discussions of equity and equal distribution of resources in a city. Columbus has initiated a discussion on the ways in which a "smart city" links residents to resources in "smart" ways using multi-modal mobility options, and the ways in which these mobility options are distributed throughout the city of Columbus.

At the center of this discussion is the policy problem of asymmetrical infant mortality rates across the City of Columbus. Neighborhoods adversely affected by the crisis face some of the highest mortality rates in the United States (US), a problem which brought many together to develop solutions around accessibility and city resources in Columbus. This discussion has been brought about by a community health partnership, CelebrateOne, including city officials, nonprofits, neighborhood resource providers, transportation officials, and a specific focus on those organizations which dealt directly with the issue of infant mortality. This discussion cultivated a task force to lead city initiatives on the issue, and it became the focus of the 2015 Smart Cities grant application for Columbus.

The Smart Columbus grant award provides opportunities for research, linking mobility issues to "wicked problems," such as infant mortality. Columbus' minority neighborhoods suffer far higher rates of infant mortality than primarily white neighborhoods. This calls for a valid and relevant analysis of mobility and resource access options for the neighborhood of South Linden, which has been identified as suffering from drastically higher rates of infant mortality than the rest of the city. Though the push to reduce infant mortality rates has been city-wide, the narratives driving the assumed needs and problems which mothers in Columbus neighborhoods face have differed between decision makers and service providers in Columbus. Those at the table to discuss infant mortality directly impact the scope of policy solutions proposed by the city, and opinions amongst those who work directly with mothers in neighborhoods with high infant mortality rates may differ significantly from those who work with the issue more indirectly at the policymaker level. Rectifying any differences via frame reconciliation is important, as it ensures continuity in policymaking and that all involved organization are working towards shared policy outcomes.

The growing importance of the infant mortality crisis as a policy priority for Columbus led to the following research questions:

- How are the mobility needs of pregnant women in South Linden, an area notable for high rates of infant mortality, assessed by public decision makers? How does this differ from the ways in which these needs are assessed by service providers?
- If there are differences between the ways in which service providers and decision makers frame the issue of infant mortality reduction, are there differences between perceptions of resource accessibility and neighborhood needs for reducing infant mortality?

In this analysis, the concept of issue framing is used to better understand how both decision makers and service providers (nonprofits, neighborhood groups, ad agencies which work directly with the issue of infant mortality) perceive the problem of infant mortality, and how differences in the framing of this issue have manifested in asymmetrical narratives around policy solutions for Columbus. The factors which significantly influence health, including the social determinants of health, mobility, walkability, and equitable resource distribution will serve to guide the analysis. When comparing the problem-setting frames that both groups propose, it is found that while interviewed decision makers preferred mobility-focused solutions which fit the idea of a "smart" city, those interviewed as service providers discussed solutions which were mother-focused and served to reduce wait time and increase efficiency of prenatal care resources specifically.

Rectifying inequities and differences in these discussions is considered part of a social justice approach to local policy and planning decisions, which ensure that solutions address equity and are implemented in a time-sensitive, data-driven manner. This research is timely, as the Smart Columbus project continues its implementation into 2020. Additionally, this research can be used to better serve other communities in their own assessments of policy framing and potential asymmetry. Ultimately, an assessment of the needs of pregnant women in South Linden and how public officials interpret these needs in policy solutions is necessary, as it ensures that both groups are aligned in objectives for a more equitable future.

The remainder of this thesis is laid out by first providing an overview of the literature which grounds policy discussions in an understanding of mobility, community health partnerships, and the social determinants of health. The literature review is followed by a theoretical framework, which provides the analytical perspective used in the analysis. Third, the case is presented, illustrating the importance of studying the impact of community health partnerships in Columbus, Ohio, specifically focused on the topic of infant mortality. Next, a methodology section provides an overview of research design and sampling methods for determining groups within the community health partnership, and for interviewing members of both groups. Fifth, an analysis section provides data from interviews with both decision makers and service providers to illustrate the differences between the two frames constructed by the groups, as well as asymmetries within groups themselves. A discussion section follows to contextualize the findings in a larger discussion of issue framing, comparing the desired policy outcomes and values between the two groups interviewed. As part of the discussion, recommendations are provided to address problem-setting asymmetry so partners can achieve their community health partnership goals.

Literature Review

This literature review is in four main sections, covering literature on the social determinants of health, the ways in which these determinants relate to equitable resource distribution, infant mortality as it relates to access to resources, and mobility and the ways in which accessibility is measured. Each of these topics provides insight into the ways in which key concepts such as mobility, equity, and accessibility are articulated in the literature, providing guidance for the analysis of framing by both decision makers and service providers. The social

determinants of health section covers the neighborhood factors that most heavily influence the health of mothers and infants. Second, the relationship between these determinants and equitable distribution highlights the disparities which many neighborhoods face in accessing resources, and why such neighborhoods are deserving of health resources from an equity perspective. Next, literature is reviewed on the relationship between the infant mortality crisis and social determinants of health in neighborhoods. Finally, the discussion on mobility and accessibility contextualizes the ways in which residents move about their neighborhoods, and the traditional barriers residents may face to moving about their physical spaces.

Overview of the Social Determinants of Health.

When assessing the health of a neighborhood, literature supports utilizing less of a traditional, disease-centric correctional approach, but instead an evaluation of the social determinants of health, all of which impact a neighborhood itself (CSDH, 2008). To understand the ways in which a community approaches health issues, it is recommended by the Centers for Disease Control and Prevention that policymakers and analysts assess and measure indicators using four social determinants of health categories of the community: the physical, social, structural and health environment, all of which are impacted by the way in which community members distribute power, resources, and money throughout the community itself (Definitions, 2014). Factors of a community which are analyzed to determine its health include, but are not limited to, the employment conditions, social exclusion, public health programs, women and gender equity, early childhood development, health systems, and the urbanization of a community (About, 2017).

When community health is assessed using the social determinants of health framework, a value is placed on human rights, as all individuals are assumed to have an equal right to a healthy community (Whitehead, 2006). Social determinants of health within a community may be stratified along race, social class, income, gender, and income lines, indicating inequity, whether in resource distribution or neighborhood construction (Solar, 2010). Keeping these determinants in mind, the overall health of communities can be analyzed as it changes and as factors stratify over time. Many determinants of health affect citizens at any given moment, making it important to use the Social Determinants of Health as a tool for intersectional analysis for understanding overall health.

Social Determinants, Health Equity, and Social Justice.

The Social Determinants of Health framework maintains the goal of equitable distribution of health resources from a social justice perspective; it is rooted in universal human rights and supported by a lens that observes a diverse range of community health aspects (Chapman, 2010). As such, the framework is based on the idea that each individual is entitled to access to health resources and equal levels of health. Using just distribution of health resources as a standard for evaluation is supported by the Commission on the Social Determinants of Health. Created by the World Health Organization in 2005, the commission serves to collect and evaluate public health research and provides policy recommendations on how to reduce health inequities in communities (CSDH, 2008). It is of the utmost importance to keep in mind that the health determinants of a specific subpopulation may differ from the social determinants of health for an entire population, especially along socioeconomic divides (Whitehead, 2006). When analyzing health impacts of policy on a population, variable levels of inequity within the

population may lead to mixed policy outcomes, as different variables impact populations at varying levels.

A social justice perspective on health equity encourages policymakers to analyze the health needs of populations as they relate to current health resource distribution, and to consider policy solutions to such distribution in a manner which adjusts current distribution to fit the needs demonstrated by populations. Health disparities are not immoral because their ends are undesirable, but because the distribution of health outcomes are a product of a socio-politically unjust environment which produces the outcomes (Peter, 2001). A rights-based approach to health can improve conditions in communities, as it highlights the inequities of health outcomes in communities based on demographics and needs of specific sub-populations, as all persons deserve the same ability to access equitable resource distribution (Chapman, 2010). The social gradient of improvement of health status runs through socioeconomic groups- those at risk of systemic issues fall lower on the social gradient of health access and status (Dahlgren, 1991). Those with less socioeconomic privilege are less likely to have access to health benefits and health care (Dahlgren, 1991). As a result, the modern challenge of health policy is to identify at-risk groups and develop equitable solutions to help increase access to care to match that of more privileged groups.

Creating Equitable Health Policy in Neighborhoods.

The 2017 National Healthcare Quality and Disparities Report captured a snapshot of current inequities in U.S. communities, and served as a Congressionally-mandated overview of

healthcare quality across the country. The report found that African Americans experienced less access to care compared with White counterparts, specifically in two areas: First, compared to 4 percent of White children, 8.3 percent of African American children did not access routine care as soon as they required it (2017 National Healthcare). Additionally, as compared to 10 percent of White patients, 17.1 percent of African American patients did not receive access to care as soon as they required it (2017 National Healthcare).

Historically, socioeconomic status has been a reliable indicator of access to health care and health equity, and those low? On the socioeconomic gradient of a community face far greater health and stress issues than those high on the gradient (Adler, 1993). Thus, to establish greater equity, policymaking should focus on eradicating the social gradient of health inequities along racial lines, in addition to socioeconomic lines.

Currently, the World Health Organization has outlined five key principles which, when met, may guide policymakers to make more effective health policies at the local level. At the core of these principles, the Commission on the Social Determinants of Health has emphasized the need for equitable health policy as the primary value (Michael, 2008). Effective health policies must have long-term, sustainable implementation plans, a clear understanding of the social determinants of health and existing health inequities. They must also have a priority of health equity and well-being as a goal of implemented policies, a priority of coordinated action among policymakers, and a systematic implementation of policies based on the specific needs of the community (Rasanathan, 2011).

Policies are most effective when crafted using an intersectional lens, which reflects an understanding that issues relating to the health of a community are multifaceted, and often are impacted by more than one social determinant (Rasanathan, 2011). In addition, effective policies should be back by stringent timelines and goals for implementation to be successful, or else face issues with poor management and governance throughout the process (Mitchell, 2000). Any proposed policy should aim at bringing around structural change, improving conditions through business and political strategies, strengthening community support for health, and influencing lifestyles and attitudes surrounding health needs; at its core, health policy must begin by changing the physical environment by addressing health needs, and must be lasting enough to influence public opinion and decisions about health (Dahlgren, 1991).

In addressing "wicked" problems, policy goals are best brought about through community health partnerships (CHPs). CHPs consist of a number of cross-sector organizations which share similar values and goals (Mitchell, 2000). This collaborative premise is especially necessary when solving issues related to public health, as it includes policymakers, healthcare providers, constituents and nonprofits among other interested parties as stakeholders in the issue (Mitchell, 2000). The uniqueness of CHPs stems not only from the diverse perspectives of all leaders included in the policymaking process, but also from the ability to engage community members throughout (Lasker, 2003). This fits the World Health Organization model for an effective policy solution, as CHP solutions can (but do not always) aim to address root causes of health inequities through citizen input, empowering them to voice their needs to policymakers (Lasker, 2003).

Two key issues are faced with creating a CHP: first, whether or not their collaborative efforts (which often require far more time and resources due to multiple stakeholder perspectives) more directly solve community issues, and second, whether those who form CHPs are aware of how to maximize their leadership potential to best solve a problem (Lasker, 2001). Success of a CHP is dependent upon the synergy of those partnering to solve an issue and their combined understanding of the issue and is the most significant advantage to such collaboration over the policy recommendations of a single organization (Lasker, 2001).

When drafting policies through a CHP process, interest groups of citizen stakeholders must be involved (Lasker, 2003). When listening to citizens who experience? health inequities, policymakers within CHPs must remain sensitive to the situational vulnerability of those who may not be best served under current health policy (Chambers, 1989). This calls into action a CHP's ability to support diverse citizen experiences, to make citizens feel consistently heard, and to enable citizens to best assess their current policy needs (Chambers, 1989). With a citizen-based, collaborative approach to policymaking, a community health partnership produces the best outcomes for sustainable, equitable health policy (citation).

Infant Mortality and Access to Resources.

Using the Social Determinants of Health framework, it is important to consider the intersectional nature of infant mortality. There is a significant relationship between a mother and her socio-political and built environment and the health of the child she carries. When seeking prenatal care, women face four barriers to access: ability to pay for services, capacity of the

healthcare system to care for low-income women, organizational issues with care clinics themselves, and cultural/personal factors which limit access to care (Institute of Medicine, 1988).

In 2016, 77.1 percent of all mothers in the United States accessed some form of first trimester prenatal care, with 6.2 percent of all mothers receiving late or no care (Martin, 2018). The remaining 15 percent received some form of care over their pregnancies (Martin, 2018). In the same year, 66.5 percent of African American mothers accessed first trimester care, while 10 percent of African American mothers received late or no care (Martin, 2018). As of 2016, the leading causes of death for infants include loss of life due to birth defects, preterm birth and low birth weight, sudden infant death syndrome, maternal pregnancy complications, and injuries (ex: suffocation) (Infant, 2016).

In terms of the built environment, there is a relationship between the distribution of neighborhood amenities and access to infant mortality health resources and the racial composition of a neighborhood (Duncan, 2012). Differences in income and access to health care are two defining variables in mortality rates, and women of color are at a disadvantage in both categories, specifically African American women. In 2005, non-Hispanic African American mothers suffered higher infant mortality rates than those of all other surveyed races combined (MacDorman, 2009). Financial hardships are compounded in the case of homeless mothers seeking infant mortality resources, where it was found that previously sheltered mothers were more likely to be African American and younger by comparison to those who had never been sheltered, more likely to have experienced childhood poverty, and more likely to have already

been pregnant (Duchon, 1999). The higher the degree of residential instability the mothers had, the less likely they were to have regular health care. Residential instability may be associated with variable health care, and the likelihood to use the emergency room or public facilities over private practices (Duchon, 1999).

Furthermore, a 2009 study of US mothers resulting in the "weathering hypothesis," which is the idea that poor birth outcomes/loss of infants for African American mothers were due, in part, to the heightened environmental and physical stressors imposed by the built environment (Marie, 2009). Environmental stressors may include poor air quality, water quality, exposure to metals, tobacco smoke exposure, and neighborhood conditions, all of which impact a mother's health during pregnancy (Marie, 2009). Neighborhood conditions are comprised of the spatial proximity to health care centers, grocery stores (dependent on the type and quality of food accessible to mothers), places to walk and exercise, rate of housing turnover, crime rates, and green spaces (Marie, 2009). High-poverty areas may have limited access to good neighborhood conditions, and areas with high-poverty, low education, and high unemployment and crime rates traditionally have higher populations of minority residents (Marie, 2009). This mix of built and social factors of an environment significantly impact infant health and accessibility of care.

A study conducted by the World Health Organization on reducing infant mortality and increasing access to maternal care concluded that while investments in the healthcare sector were responsible for about 50 percent of the reduction of infant mortality rates in a number of countries (including the United States), successful reduction of mortality rates were also

contingent upon factors outside of clinic care (Success, 2015). While their analysis concluded that there was no single variable which fast-tracked the reduction of infant mortality rates, it was indicated that women's education and ability to control her socio-political environment (including governance and access to resources) were the two main indicators of rate reduction (Success, 2015). Data in the United States is aggregated in a Pregnancy Risk Assessment Monitoring System (PRAMS), which identifies social and environmental indicators that may put mothers and infants at risk of health implications or loss of life. The Center for Disease Control and Prevention has conducted this data collection process on a state level, with an end result of the 2012 through 2015 Maternal and Child Health (MCH) Indicators by state.

Mobility and Measuring Access.

Accessibility can be defined as the ability of populations to navigate space (to attend "out of home activities") using available transport systems, accounting for the spatial patterns of an area (Metz, 2013). Mobility options include transport by car, bus, or other vehicle, as well as walking, biking, or other forms of movement (Metz, 2013). It is important to note that an increase in reliance on household cars as a form of transportation may influence neighborhood design and move resources away from neighborhood centers, due to the growth in reliance on personal vehicles (Metz, 2013). In order to ensure equity of opportunity, it is important to ensure equity in mobility, as mobility options increase access to opportunities (Jordan, 2003).

One way to gauge access to resources, health or otherwise, is through the evaluation of neighborhood walkability. Walkability gauges an individual's ability to access resources within

walking distance, and to do so safely and efficiently (Duncan, 2012). Walkability is key to neighborhood health, economic benefits, and access to resources. Disinvestment in historically segregated neighborhoods may lead to a decrease in walkability of these areas, however, there may be auto-correlation between these two trends due to a number of factors-neighborhood spillover, census data, etc. (Duncan, 2012). A 2012 study in Boston which evaluated neighborhood walkability related to race and socioeconomic status using the Walk Score showed that historically disenfranchised minority communities have stayed disenfranchised, and encounter more mobility restrictions than other neighborhood groups. Additionally, these groups have significantly less neighborhood resources to access, however, this does not contribute to a lower walkability score (Duncan, 2012).

Theoretical Framework: **Issue Framing, Problem-setting, and Policy Implications.**

When crafting a set of policy solutions to a problem which arises in a community, understanding the way in which a problem itself is defined is of the utmost importance. A problem is defined by the set of experiences and facts that stakeholders and decision makers themselves believe to be most relevant to an issue (Schön and Rein, 1994). Due to the highly personal and professional perspectives that are often shared in the defining stages of problem discussion, problem definition, also known as the "problem-setting," likely differs based on the selected stakeholders' and decision makers' perceptions given their different experiences. The variability of those engaged in the problem definition process leads to different "framing" of what the underlying problem, which drives a policy issue (Schön and Rein, 1994).

Disagreement can arise when frames define an underlying problem differently, or when the identified problems are not the same at all (Schön and Rein, 1994). The issue of frame disagreement stems in part from poor design in the problem definition phase of policymaking, for instance, when there is often a lack of equitable participation by those people who are defined as the target population in the framing process (Gregory and Keeney, 1994). To avoid this issue, policymakers should engage target populations early in the problem framing process to ensure that they are able to specify the objectives of the policies being implemented (Gregory and Keeney, 1994). This can be done through a number of stakeholder engagement sessions, including small-group discussions with advocacy groups, affected community members, and with representatives which work directly with the target population (Gregory and Wellman, 2001). By including the perspectives of the target population, alternative policy solutions to the proposed problem can also be determined during this step that reflect the target populations' needs (Gregory and Keeney, 1994). Additionally, decision-makers and planners designing public participation events must also be cognizant of their own narratives, experiences, and how they themselves may have already framed the issue before leading a public discussion on how a problem should be framed (Clark, 2017). Frame asymmetry is something to consider as a negative consequence of competing frames, as it provides the opportunity for policy recommendations which are not based in literature or data to be considered as implementable solutions to wicked problems and shows a mismatch in values between stakeholder groups.

When it becomes evident that there are competing frames of the problem-setting for a policy issue, deliberation is necessary to resolve the differences between the frames, and to ensure that the policy solutions presented as a result of framing and understanding a problem are

ones which best fit the needs of the community in which the solution is implemented. This process is known as "frame reflection" (Schön and Rein, 1994). Through a mediated negotiation approach, the political needs of decision makers, the welfare of community members, and the rational costs of each policy solution are weighed against one another (Schön and Rein, 1994). This process requires a series of tradeoffs between problem frames in order to create solutions that meet the values and needs of a community best (Gregory and Wellman, 2001). This collaborative process is used to merge multiple frames and to ensure continuity between the ideas of multiple community members, policymakers, and stakeholders.

Case Study - South Linden, Columbus, Ohio

South Linden Profile.

Columbus, Ohio is ranked as the city with the 10th highest infant mortality rate in the United States (State, 2015). A small neighborhood on the east side of Columbus, Ohio, South Linden has become a point of national discussion among those interested in the rising infant mortality rates in the United States. South Linden has disproportionately high infant mortality rates compared to the rest of the City of Columbus in a state where infant mortality rates are already among the worst in the country. Due to these high rates and its' placement along a high-traffic road in Columbus, South Linden has become a focal point of study. The neighborhood reports adverse health and transportation indexes, indicating that the neighborhood suffers from in relation to those neighborhoods surrounding it. This neighborhood was selected to study in Columbus due to the drastic ways in which it differs, both demographically and in terms of resource accessibility, from surrounding Columbus neighborhoods. Due to both the high

minority population and the rate at which infant mortality had grown, Columbus prioritized South Linden as a target for infant mortality policy and programming. The collaborative step which Columbus took in creating CelebrateOne, the infant mortality task force which focused on the South Linden neighborhood and other infant mortality hotspots, made this case important to understand from a community health organization perspective. The efforts of both decision makers and service providers to assist mothers in the South Linden neighborhood brought attention to the inequity which the neighborhood suffered from, making it a relevant case in which to study how community health partnerships develop policy solutions when balancing different stakeholder groups.

As of 2018, the makeup of South Linden reflected a population of approximately 9,085 residents and 3,389 residences (Overview, 2018). The neighborhood is comprised of 71.6% of African American, 13.5% mixed-race, and 13.2% White residents (Overview, 2018). The average income for the neighborhood is $22,300, and the neighborhood employment rate is 49.7% (Overview, 2018). In South Linden, the family structure is predominantly single-mother households, comprising 39.5% of families (Overview, 2018). This is followed closely by one-person households at 33.9% of the population, and married families with 14.8% (Overview, 2018). Overall, the demographics for a typical resident of South Linden include young, single mothers of color with a moderate income. The southeastern edge of the neighborhood has a particularly high density of single mothers (Statistical, 2019). A visualization of the demographic breakdown of South Linden can be found in Figure 1, Figure 2, and Figure 3 below. Figure 1 shows the population density of South Linden by census block. Figure 2 illustrates the African American population of South Linden by census block. Figure 3 shows the

density of single mothers in South Linden by census block. It is important to note that the Southeast corner of South Linden has the highest population and is the most densely populated area for African Americans and single mothers.

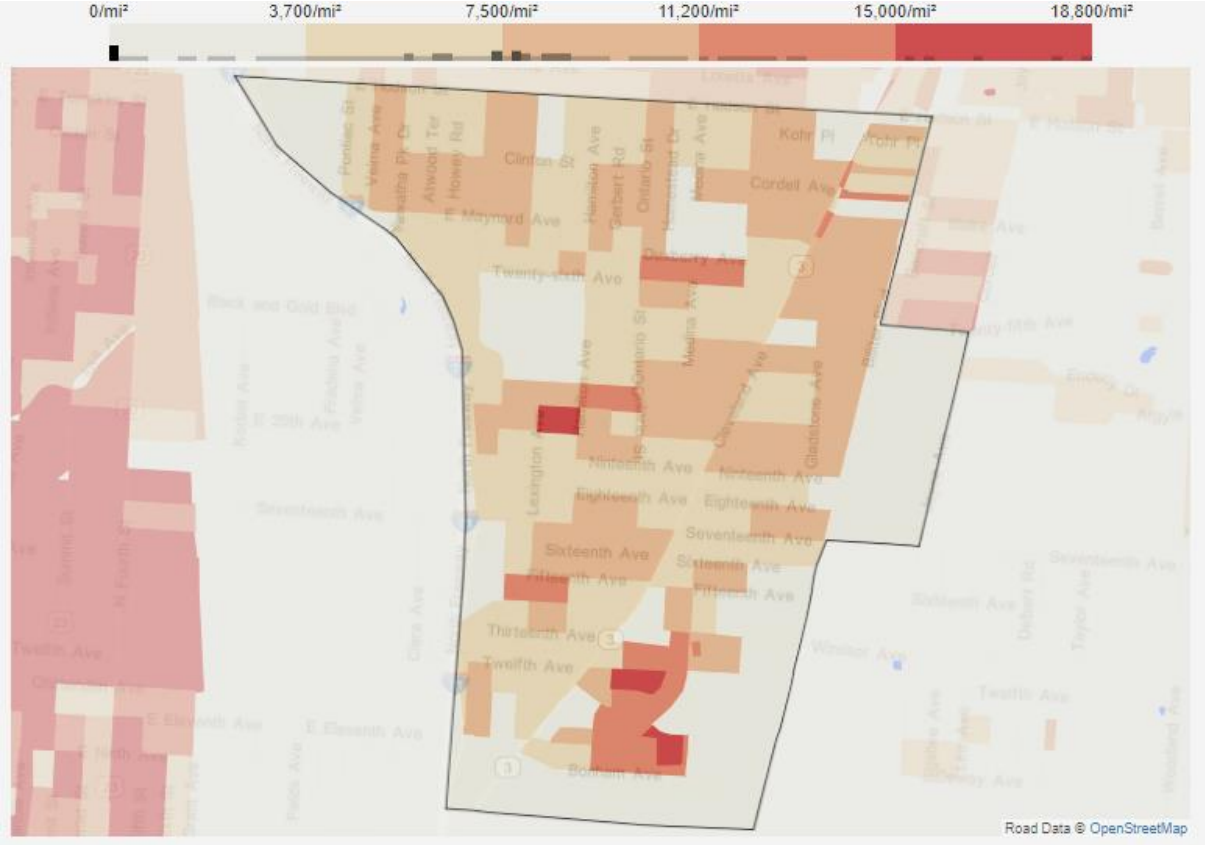

Figure 1: Population Density by Block in South Linden, (2018, September 4). Population of South Linden, Columbus, Ohio (Neighborhood). Retrieved April 1, 2019, from https://statisticalatlas.com/neighborhood/Ohio/Columbus/South-Linden/Population

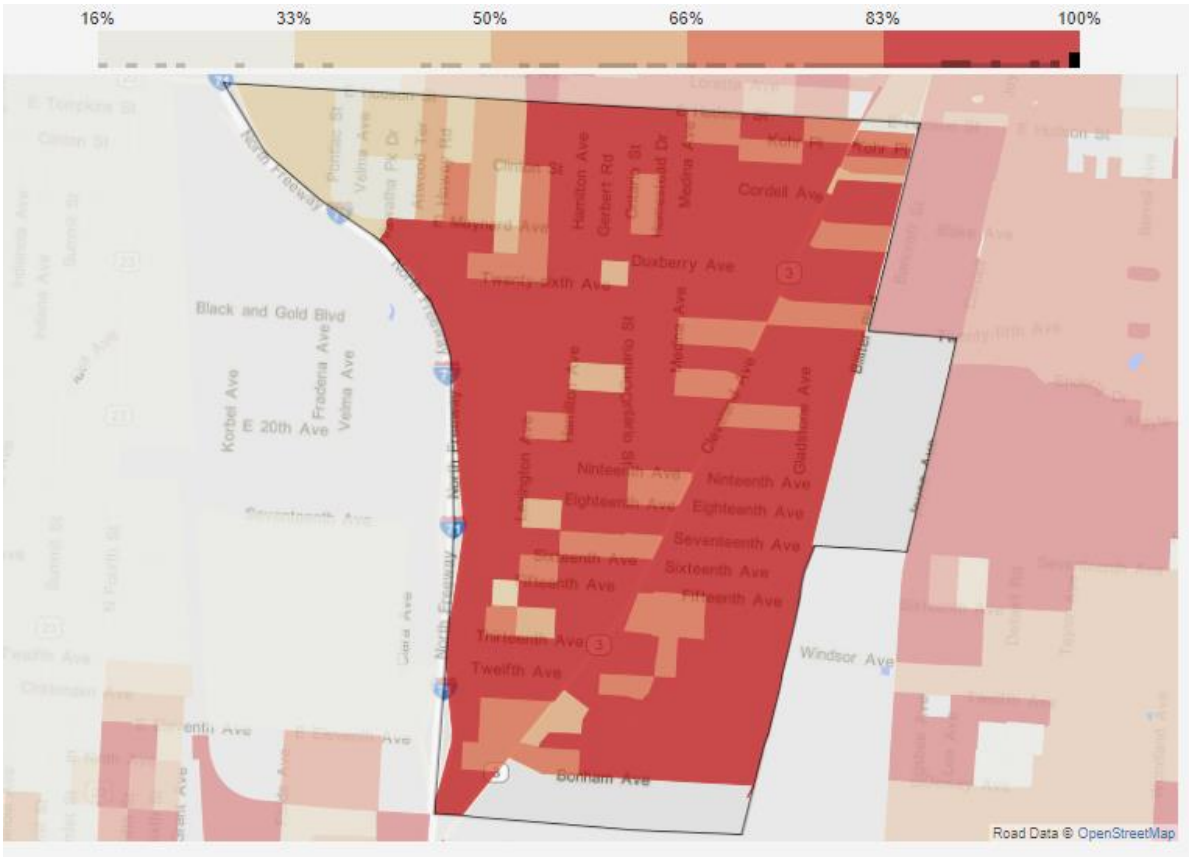

Figure 2: African American population of South Linden by Block, (2018, September 4). Race and Ethnicity in South Linden, Columbus, Ohio (Neighborhood). Retrieved April 1, 2019, from https://statisticalatlas.com/neighborhood/Ohio/Columbus/South-Linden/Race-and-Ethnicity

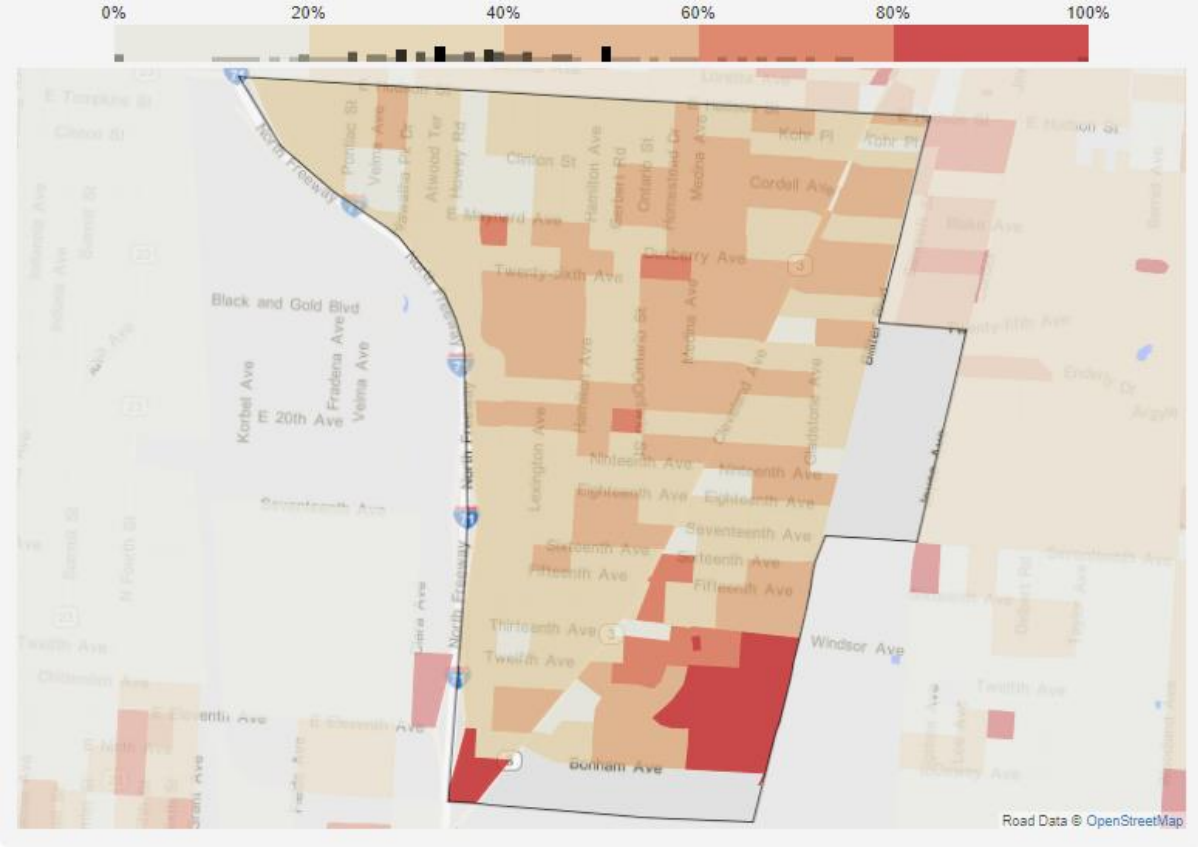

Figure 3: Density of Single Mothers by Block in South Linden, (2018, September 4). Household Types in South Linden, Columbus, Ohio (Neighborhood). Retrieved from https://statisticalatlas.com/neighborhood/Ohio/Columbus/South-Linden/Household-Types

Not only does the neighborhood of South Linden suffer from disproportionately high rates of infant mortality compared to the rest of the city of Columbus, but within the neighborhood, black babies are 2.5 times more likely to die before their first birthday than white babies in South Linden (South, 2019). The overall infant mortality rate is 25.7 deaths per 1,000 live births, compared to 8.5 deaths per 1,000 live births for the entirety of Franklin County, Ohio (South, 2019). Leading causes of infant mortality within South Linden include, but are not limited to, premature birth, birth defects, unsafe sleep, smoking, and overall neighborhood health

(South, 2019). In the case of South Linden, unsafe sleep and low birth rate have been the two leading factors in increased infant mortality rates since 2008 (South, 2019).

City Efforts.

The City of Columbus has enacted a number of citywide efforts in order to address the disproportionate rates of infant mortality that South Linden suffers from as a neighborhood. Beginning in 2014, the Columbus City Council chartered a Greater Columbus Infant Mortality Task Force to tackle the issue of infant deaths in the city. The task force was comprised of local leaders, policymakers, nonprofit directors, and corporate partners, all invested in addressing the policy issue of infant mortality (Columbus, 2014). This Infant Mortality Task Force is an example of a community health partnership, as it includes multiple stakeholder perspectives in a collaborative process to solve a select policy problem. Columbus officials recognized the systemic barriers that often impact infant survival: these included poverty, a lack of access to nutrition during pregnancy, barriers to education and employment, a lack of health care, and social stress as factors which adversely impacted pregnancies (Bliss, 2016). Final recommendations from the task force included an aggressive approach to addressing socioeconomic inequalities in Columbus neighborhoods, improving prenatal care and health systems for expectant mothers, promoting infant safe sleep and smoking reductions in neighborhoods, along with a number of additional recommendations (Columbus, 2014).

As a result of the infant mortality task force, CelebrateOne was launched by the City of Columbus to work directly with neighborhoods on identifying causes of infant mortality and

connecting mothers with the necessary resources and information to carry out healthy pregnancies (City, 2019). A team of planners, policymakers, and neighborhood advocates directly focused on providing solvency and support for expectant mothers, CelebrateOne set a goal of reducing infant deaths to 6 per 1,000 live births, and to cut the death rate disparity between black and white babies lost in half by 2020 (South, 2019). Connecting mothers with city resources and with local nonprofits such as Moms2Be, CelebrateOne has developed into a connection point between mothers and a host of Columbus resources from which mothers can benefit (City, 2019).

In addition to the resources provided directly to mothers through organizations like CelebrateOne, Columbus has made efforts towards addressing the systemic inequities that often impact a mother's ability to move about her neighborhood and to access the resources necessary for her to maintain a healthy, well-informed pregnancy. In 2016, the City of Columbus was awarded the Smart Cities Grant. The US Department of Transportation grant allocated $50 million to Columbus in order to aid in the transformation of Columbus into America's first "smart city" (SMART, 2019). As a focal point of the grant application, the City of Columbus set a goal of reducing infant mortality rates by 40% overall by the year 2020, a goal reflected in CelebrateOne initiatives (Bliss, 2017). In 2017, the Smart Columbus team received backlash from citizens, as many believed that the infant mortality needs of the South Linden community had been largely ignored during the design and implementation phases of the Smart Columbus project (Bliss, 2017). In response, the Smart Columbus team has utilized US Department of Transportation funds in order to support the use of multimodal trip planning and prenatal care assistance for expectant mothers in South Linden (Smart Columbus, 2019). The use of big data,

much of which will be collected and managed by the City of Columbus, will continue to aid public decision-makers in their efforts to work on systemic issues in neighborhoods which impact infant mortality rates (Can, 2018).

Given the wave of efforts put forward to collaboratively address the growing infant mortality crisis in Columbus neighborhoods like South Linden, it is clear that an assessment of the ways in which stakeholder collaboration addresses target population needs was necessary. As a result, the following research questions are proposed:

- How are the mobility needs of pregnant women in South Linden, an area notable for high rates of infant mortality, assessed by public decision makers? How does this differ from the ways in which these needs are assessed by service providers?
- If there are differences between the ways in which service providers and decision makers frame the issue of infant mortality reduction, are there differences between perceptions of resource accessibility and neighborhood needs for reducing infant mortality?

Methodology

To answer the research questions, key informant interviews were conducted and analyzed using the theory of problem-setting applied to the social determinants of health framework. Key informant interviewees were selected using a purposive sampling method – theoretical sampling. Purposive sampling does not rely on probability sampling methods, but rather on researcher judgement in order to create a smaller, more focused group of key informants to engage in the

interview process (Lavrakas, 2008). Given the theoretical framework of framing and problem-setting, it is theorized that decision-makers and service providers would have different experiences with low-income expectant mothers. Due to the daily interaction which service providers have with the target population of expectant mothers, it is theorized that service providers will have an in-depth understanding of the needs of the target population. Additionally, due to the wide variety of policy objectives which decision makers interact with in their daily work, it is theorized that decision makers will have an understanding of the needs of the target population not in terms of daily needs, but rather in terms of how this population interacts with other policy objectives which decision makers are working towards. As such, different experiences would lead to different problem-settings, impacting proposed policy solutions.

Therefore, this sample contains two generalizable types of informants: decisionmakers who shape how the City of Columbus responds to the infant mortality in the policy realm, and those who work directly with expecting mothers in the service sector, service providers. In this way, information regarding both the general mobility needs of mothers from those who serve in South Linden, and the way in which these mobility needs are both interpreted and reflected in policy decisions on the city level are collected. By collecting information from these groups, potential asymmetries or gaps in the ways which mobility barriers and options for pregnant women in South Linden are understood and legislated can be identified. Key informant interviews were semi-structured, focusing on three categories of questions: (1) the mobility landscape in South Linden, (2) the barriers to accessing prenatal care in South Linden, and (3) the perceived root causes of infant mortality/neighborhood health in South Linden.

A qualitative, semi-structured interview process allowed for a well-rounded discussion of mobility options in Columbus. Open-ended questions enabled key informants to use their own judgement and language to describe the ways in which they interact with mobility options and mothers themselves, and allowed for an analysis of the role that all key informants see themselves having in shaping the future of mobility for expecting mothers. The tone of the interviews will be conversational in nature (Yin, 2016).

A total of seven interviews were conducted. Sampling for the key informant interviews included three decision-makers from Smart Columbus, the City of Columbus, and Columbus City Council. Additionally, the sample included four service providers from Celebrate One, Moms2Be, Columbus Public Health, and The Center for Family Safety and Healing at Nationwide Children's Hospital. The key informants were asked a series of questions and which were followed by clarifying questions and discussion based on responses given. The table of questions for each group are detailed in the table below (Table 1).

Table 1: Question Bank for Key Informant Interviews

Decision Maker Questions
• How do you define mobility? How do you define equity? • What prenatal care resources exist in South Linden for pregnant women? • What resources, if any, do not exist in South Linden that you believe pregnant women could benefit? • Are there any policies which you believe dictate how mobility options are distributed in South Linden? If not, who decides which mobility options are assigned to which areas? • Aside from clinic visits, what aspects of prenatal care are the most important in preventing infant mortality? • Is there an aspect of care which you believe could change to drastically increase a woman's ability to prevent infant mortality in her own pregnancy? If so, how could this aspect be improved? • Do you believe that increased access to mobility options is the biggest equalizer in preventing infant mortality in South Linden?
Service Provider Questions
• How do you define mobility? How do you define equity? • Is the definition of mobility the same for everyone? If not, how does mobility differ for different individuals? • What resources do pregnant women in South Linden use on a daily basis? • How do women in South Linden get to and from these identified resources? • Are existing mobility options sufficient in helping women receive prenatal care? If not, what could be changed about these mobility options? • Do all women face the same infant mortality risks in South Linden? If not, why is this the case, and how can these differences be remedied? • What mobility options, if any, are the most/least accessible to women in South Linden? • Why, if at all, would an expecting mother choose some mobility options over other in South Linden? (criteria for mobility options)
Questions for Both Groups
• What are the needs of expectant mothers in South Linden? • How would you describe the mobility options available in South Linden overall? • How would you describe the housing options available in South Linden overall? • How would you describe the socioeconomic status of South Linden residents? • What, if any, would you identify as the largest stressors in the lives of expectant mothers in South Linden? • How would you describe the mental health of expectant mothers in South Linden?

The interviews were recorded using a handled audio recording device. The interviews were later transcribed using online transcription software and reviewed manually for mistakes. In this way, inventory of key words and ideas were tracked across interviews and categorized, later assessed for secondary context and meaning (Saldana, 2013). Through an interview process, frames can be determined for both decision makers and service providers by understanding how both groups prioritize aspects of the policy issue itself: mobility, transportation, maternal and prenatal services, food, etc. Coding for these words will help develop a holistic frame for the group, and then the two frames can be compared to better assess whether frame reflection needs to occur to develop more inclusive policy solutions.

Coded words included mother, infant mortality, mobility, equity, women, service, and policy. These words were selected due to their relation to the central questions posed in this research and their relevance to social determinants of health and the way in which the infant mortality issue was framed. The interviews were then analyzed using deductive, descriptive coding methods. These coded words were then aggregated for number of uses per interview and were also analyzed for quote context to determine the way in which the key word itself was being used as part of the policy frame. Contextual indicators which determined how a policy issue was framed included about how residents (using the coded words mother or women) were involved in the policy solutions, which key words were used most frequently to describe the policy solution's focus, and how the key informant's role itself contributed to their view of the issue (for example; those who worked directly with mothers clearly prioritized the safety of mothers above other policy values). From these, quotes which best represented all key informant

interviews about a selected coded word were used to better understand the overall issue frame constructed by the policy group.

Findings and Discussion

The aggregated findings from all key informant interviews, separated by key informant interview group, are presented in Table 2. The table illustrates the selected coded words and the frequency with which each key informant group used a coded word, in addition to providing sample quotes from the two theoretical samples that best represent the context in which each key informant group discussed each coded word throughout the interviews held. Although coded words were kept consistent throughout the entire sample, differences both in the number of times words were used as well as the context in which they were used differed significantly. Table 2 compares the total coded words between the two sample groups and provides a sample quote as an overview for the context in which each word was most commonly used.

Table 2: Key Informant Interview Quotes

Coded Word	# of times used by service providers	# of times used by decision-makers	Service-provider example quote	Decision-Maker example quote
Mother	29	5	"We'll be talking about maternal depression and making sure that mom is taken care of in that regard…We'll be assessing ongoing mom's relationships for relationship violence. We'll be assessing what is mom's access to community resources like the WIC program, like other services and supports."	"So streamlining that communication, so it's more reliable, and allowing the mother and driver to have that communication."
Infant Mortality	63	14	"So our goal is to reduce infant mortality rate in Columbus by 40 percent by 2020. So that's a very ambitious goal. Now we're still working on it, it's a work in progress, also to reduce the infant mortality rate disparity between non-Hispanic blacks and the non-Hispanic whites."	"When I was at Statehouse the look at infant mortality was focused on safe sleep standards, and it's just tough because there's just so many unique characteristics that pop in cause infant the sudden infant death syndrome or other infant outcomes not to be great in talking to nurses."

Mobility	8	53	“You know we talked about mobility and the access to services- we try to break down that barrier as best we can, but there's still work to do there because this is a transient, difficult to engage population.”	“I think what we have the opportunity to do with the Smart City Challenge Grant and just knowing that we're the future of transportation or mobility is going. We have the opportunity to help create and nurture a true mobility ecosystem.”
Equity	13	6	“It's not going to be news to you that this disparity is all about health equity or really health inequity. The color of your skin in today's world still unfortunately determines your health outcome.”	“Equity is obviously trying to provide the services to everyone as new providers coming into the city, ensuring that they are going to neighborhoods that are underserved. As far as transportation goes and providing that access to them.”
Women	82	8	“But we know women who have substance abuse issues, we know women who are maybe ashamed of their pregnancy, I'm not sure, but obviously there are some. They may not want to come, but they're the ones who we really could help the most. I think though in general we're reaching the women that would not ordinarily get this kind of support.”	“The stories that are told of you know young pregnant women have no problem getting to that OBGYN, but when it's then the two-hour trip home, and they have no desire then to take on that three, three-and-a-half-hour journey where they get there they can't get back.”

Service	76	36	“Participant enrollment and involvement in each of those hot spots on a regular basis so they can evaluate how much home visiting services getting into these infant mortality hotspots so that we can further problem solve, plan events, or really do targeted outreach to help get more moms and families link with our services in the community.”	“So some local startups, Share and Empowerbus are two of the microservices that are really trying to help the underserved access goods and services. And so, there's been a, a huge, I guess, uptick in the transportation services provided in the city.”
Policy	4	4	“Or, they have to be in school to get childcare. So, you can't get a job until you have childcare, but you can't get childcare until you have a job. So it's a lot of issues that public policy could help us with.”	“I think that the, the policy decisions that are being made are helping to improve the access to those types of transportation.”

To clearly depict the differences between the number of times a word was used both by decision-makers and service providers, the following visual (Figure 4) for coded words were created in order to bring context to the ways in which both sample groups preferred different language when discussing the same issue of infant mortality:

Figure 4: Coded Words Used in Key Informant Interviews

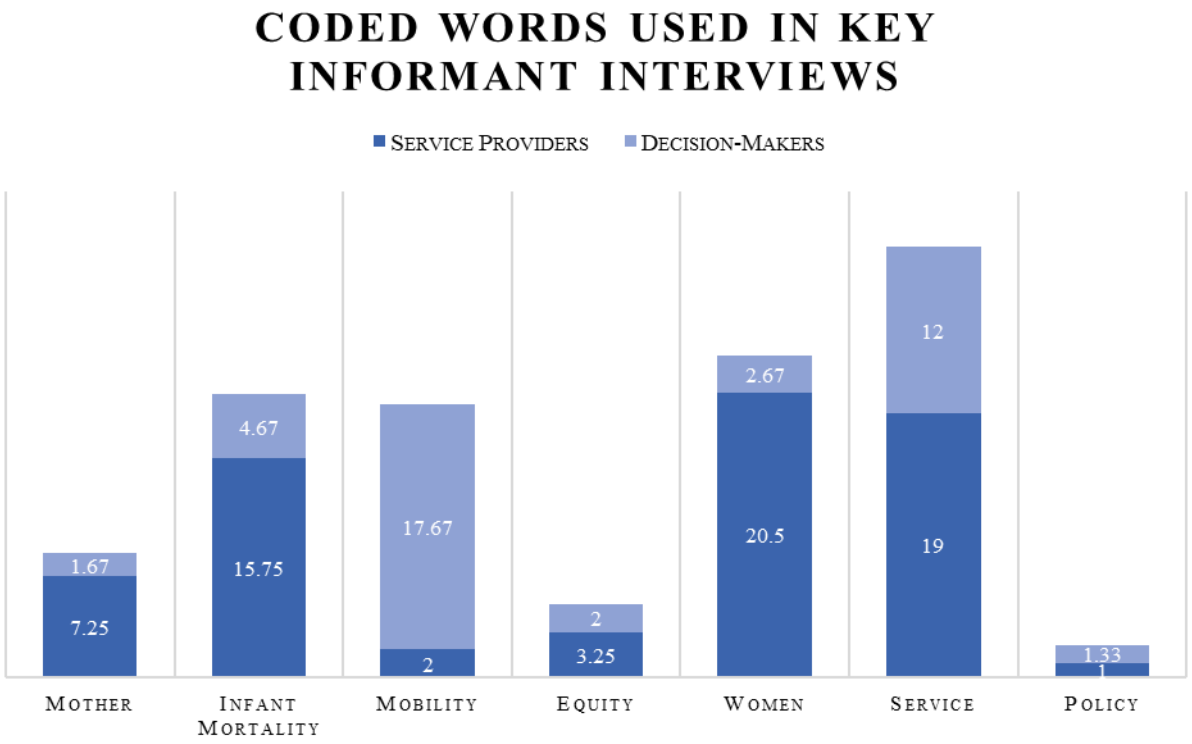

Figure 4 represents the amount of times which a coded word was used across all interviews in a key informant group. To account for differing sample size of service providers (four interviewed) and decision makers (three interviewed), the aggregate value of each coded word was divided by the number of interviewees in the respective group. Figure 4 reflects a few key differences between the ways in which infant mortality is discussed by decision makers and service providers. The largest differences in coded word count are the words “women”, “service”, and “mobility”. This does not account for the contexts in which these words were used. Of all coded words, the only ones which were used predominantly by decision makers (as compared to interviews with service providers) were “mobility” and “policy”. Importantly, “policy” was the word with the smallest margin of difference in use between service providers

and decision makers interviewed. When disaggregated, it is evident that no single interview skewed any coded word used so significantly that it impacted which key informant interview group used the word most prevalently.

Among the most notable of the differences between the two sample groups is the way in which the women accessing care are discussed throughout interviews. While discussions with service providers tended to be more woman-centric when evaluating the needs of a community (taking into consideration neighborhood walkability, available prenatal care resources, and transportation options), decision-makers focused on the ways in which women worked as a part of a larger mobility ecosystem in the city. For example, in a discussion with a decision maker regarding the accessibility of transportation options for pregnant women, one respondent noted: "Linden transit center has Nationwide Children's Hospital, a branch there that, um, provide services to, to pregnant women too. So we're, we're making that connection."

In contrast, when similarly asked about the ways in which women utilize transportation options to move about their physical environment, a service provider offered the response:

> You know they can't- they don't- pick the moms up reliably. They may not have seat, car seats for all their children. They don't respect the women like they should. And they can come within two hours before clinic and pick the mom afterwards two hours afterwards. Well, one of our session leaves ends at 6:30. You know, we can't have our staff and our moms with her kids waiting there for two hours.

While service providers often provide insights into the needs of mothers through their critique of existing transportation, mobility, and accessibility opportunities within a neighborhood, the discussion on behalf of pregnant women by policymakers is prescriptive in nature. While it is evident that policymakers have an understanding of the resource asymmetry that exists in neighborhoods such as South Linden, the framing of their solutions focuses more on mobility as a concept and less on the understanding of the pregnant woman's experience. Contrastingly, service providers provide rich context to the diverse set of needs of a mother experiencing pregnancy, and are capable of incorporating those needs as a centerpiece of the narrative surrounding infant mortality.

The differences in framing the problem of infant mortality are evident in the ways in which these two sample groups describe a key stakeholder in the policy problem: mothers and infants suffering from disproportionately high infant mortality rates. While service providers frame the issue using tools such as the social determinants of health to better understand the ways in which the built environment has failed women, decision-makers frame relies more on how mobility can be improved through technology for all citizens, including mothers and those suffering from infant mortality.

To further illustrate the mismatch in word use between these two sample groups, the coded word "service" had clear similarities to the ways in which the word "woman" was discussed by both service providers and decision-makers. The fundamental difference in what the coded word meant in each context is what makes this word important to discuss. To service

providers, the idea of services revolved around medical care and nonprofit work, which was directly to the benefit of the mothers in discussion. This could include anything from work done by local organizations, like Saint Stephen's and Moms2Be, to pop-up medical clinics or home visits done by nurses in neighborhoods with high infant mortality rates. The following quote is from service providers as they discussed services available for women in neighborhoods:

> One of the other gaps that they have identified is that there are certain services there are challenge for women to get to. Whether it be a medical office, or to the grocery store. So they're working right now to identify where those opportunities outside the community are.

In this context, the idea of services casts a wide social service net and focuses on the importance of providing a range of tools which are accessible to women at the local level. While the discussion from the perspective of the decision-maker does not completely rule out the idea of services as a range of important community resources, the addition of the idea of mobility and transportation options as the key service which moves mothers between community resources adds a new dimension to the word, unique to the decision-maker sample group's discussion:

> They want to be and should be at the core of our mobility ecosystem. I mean thinking about what we have that's working now, and what should we be adding to it making it more robust and acceptable system. That's stuff that can be everything from micro transit

to on demand ridesharing services to e-scooters. And quite frankly solutions that will pop here in the coming years that we can't even think of today.

The definition of “services” is expanded when mobility options are factored in as primary neighborhood resources. The discussion of what a service brings to a neighborhood is given depth by decision-makers in this context: a service provides a specific asset, in this case, increased access to movement around the built environment. This definition introduces the idea that mobility options as a public service them self can provide access to one another. In this case, mobility options as a service provide connections, which allow residents to access other (more traditional) neighborhood resources, like clinics, grocery stores, or employment opportunities. Along with this expanded idea of service comes the idea of accessibility. Noted by decision makers throughout the interview process, the idea of mobility options (bikes, scooters, buses, sidewalks, rideshare services) as a public service continuously came with a mention of affordability and accessibility in a time of rapidly changing technology. An awareness of such barriers to access was mirrored by service providers, however, their barriers to entry focused more on physical accessibility and abundance of social services and support at the neighborhood level, and less on including mobility options as a service itself. The spectrum of meanings of the word “service” in discussions across these two groups brings about a basis for a lack of understanding of which “services” may be the most important to prioritize when framing policy objectives, mobility or otherwise.

It is important to note that among all of the coded words, the only one in which the sample of decision-makers made up the largest portion of the word used was “mobility”. The asymmetry between the use of this word in the decision-maker sample and the service provider sample is concerning, as the decision-makers have made the concept of mobility a focal point in the discussion of reducing the infant mortality crisis in South Linden. When asked to define mobility, no service provider provided a clear definition as to how “mobility” fit into the vision of neighborhoods struggling with infant mortality. While service providers often spoke of increased access to bus lines and existing transportation opportunities, they were hesitant to connect at all with the larger concept of “mobility,” which decision-makers were more interested in discussing. Contrastingly, decision-makers framed the entire discussion of infant mortality reduction around the central idea of mobility as an accessibility tool to manage already present neighborhood resources:

> So I think the challenge with mobility, and I think it's always true, it's that first and last mile goal, and how people are able to navigate whatever function or if it's employment, it's health care, if it's child care, how they're able to have access if it's not directly in their neighborhood.

From the decision-maker perspective, increased access to mobility in these discussions was indicative of an increased ability to engage with existing resources in Columbus. Concerns with “first” and “last” mile transportation efforts highlight an overlap in the goals of both service providers and decision-makers, as there is a clearly communicated and shared need to ensure that

existing mobility options move residents as close to resources and services as possible in affordable ways. However, a key component of mobility, which was not discussed by decision-makers, was walkability. Service providers emphasized the fact that many women walk to their services, depending on the conditions of sidewalks and streets in their neighborhoods:

> A lot of our moms would walk a mile or two to get there. Days like today, I avoid buses because they'd have to transfer downtown and then come up High Street or wherever, Fifth Avenue...so how can a woman who's not on a bus go about her day?...You know, I think walking is probably it for them. They're really their only source of mobility that they can count on.

It is clear that the decision-makers' focus on the larger concept of mobility includes an understanding of the multi-modal ways in which residents move about a city. However, issue framing asymmetry occurs when decision-makers fail to understand some of the existing ways in which residents who may not have reliable, easy access to public transportation move about their neighborhoods and the City of Columbus. When decision-makers fail to recognize these practiced alternatives, they fail to provide tangible solutions to these populations in their pursuit of service accessibility. While it is clear that decision-makers have positioned themselves to develop and drive a mobility-rich narrative about the future of Columbus, the discussions were not reflective of an understanding of many of the current barriers which pregnant women face in accessing already existing services (mobility and otherwise) in their neighborhoods.

When discussing the phrase “infant mortality,” there was a significant difference between the amount of times which the phrase was used by decision-makers and service providers. This affirms a clear difference between the problem framing of decision-makers and service providers. While service providers sampled consistently made the issue of infant mortality the center of their discussion, sampled decision-makers have emphasized infant mortality reduction as one of many tiers in a larger mobility and service accessibility vision for the city of Columbus. Service providers emphasized the importance of a sustained focus on infant mortality reduction as a city:

> It's not going to be news to you that there's an infant mortality crisis going on in our community and in our state. It's not going to be news to you that this disparity is all about health equity or really health inequity. And really when you're looking at a whole of a population and trying to assess how healthy is that population, I would wager that infant mortality is one of the key metrics that you should look at because it talks about how are the youngest how are the most vulnerable members of that population? How are they getting by?

Interviewed service providers remain more focused on the issue of infant mortality due to the close proximity of their everyday work to the issue, however, they also recognize the important role that infant mortality rates play in indicating overall neighborhood and community health. While this notion is not lost in the discussions with decision-makers, it is clear that the issue of infant mortality reduction itself, though once at the heart of the Smart Columbus grant

application, has become one facet of a larger push to connect residents to their community resources. While both groups demonstrate a concern for mothers currently at-risk for high infant mortality rates, decision-makers note that there has been a change in how the issue of infant mortality has been approached:

> So when there's critical urgent health care needs that's what people want. Where is Smart Columbus? You know, we've got young babies dying. Why aren't you guys giving us that 40 million dollars? And it's been an education that's not- that 40 million wasn't directed solely at that, but where can we find that mobility equity piece for first mile last mile?

Overall, the differences between the use of some coded terms, either in definition, frequency, or in context of discussion, highlights the framing differences of the infant mortality crisis in Columbus between decision-makers and service providers. These differences are worth reconciling, as the two groups continue to influence the issue of infant mortality with different values and objectives in mind. While it is clear that service providers offer a highly specialized and prioritized understanding of infant mortality due to the specificity of their work, the lack of translation of many neighborhood accessibility issues that service providers iterated to the discussions being had by decision-makers is noteworthy.

When applying a frame analysis to both the decision makers and service providers interviewed, the coded terms selected provide insight into the values and interests held by both

groups. While variation between groups about issue framing and coded word use was evident, there was also variation within interviewed groups. One key difference which service providers disagreed about was the ability of current city resources to serve the needs of the target population. While all service providers acknowledged the collaborative environment which Columbus has fostered around the need to address the infant mortality crisis, some service providers had a more positive outlook on the existing services for expecting mothers than others:

> I mean I feel like there's efforts that were all happening at the same time. They maybe didn't really know about each other and learned about each other. And I still think that still happened as we were going on.

Some service providers acknowledged the larger commitment to resource access in communities but highlighted the information asymmetry both between residents and the services themselves, as well as between services which may be working in the same neighborhoods. While some providers saw this as an opportunity to bring all providers to the same page, others believed that providers themselves already created a very cohesive environment in which services became accessible to residents:

> I think it's unique to have a city-wide focus with all the resources they're putting in from a wide variety of people. Not just public health, not just medical systems, but the whole array that we need. We know we need that to address the social determinants of health.

This asymmetry within the service provider realm speaks to the ways in which different understandings of how city and service provider resources are already allocated in the city leads to disagreement about how to move forward in collaboration. If resources are organized and accessible, service providers need to spend little to no time ensuring that residents understand the services available to them. Contrastingly, if resources are not easily accessible and organized in ways which residents understand, this may serve as a call to action for service providers to better organize and collaborate with coexisting initiatives to deliver the best services to the largest number of residents.

Inter-group asymmetry does not exist only for those interviewed as service providers, but also for those interviewed as decision makers. For this group, disagreement between interviews came mainly from the ways in which Smart Columbus played a role in reducing infant mortality rates in Columbus neighborhoods. For some, Smart Columbus as both an organization and decision making body provides a jumping off point for many projects focused on mobility, accessibility, and infant mortality rate reduction:

> So we're focused from a transportation aspect because this is a transportation study from the city's perspective, the reliability transportation, um, the customer satisfaction, not only from the driver's side, the satisfaction, the mother's side, but also from a driver's side and the MCO side.

In this example, decision makers are able to use funding and partnership opportunities granted by Smart Columbus to further develop projects to tackle infant mortality rates in South Linden. However, other decision makers continue to frame Smart Columbus' work as a piece of a larger mobility puzzle which Columbus strives to solve through increased mobility options:

> So it's still planning. I mean you can go to Linden today and tell them what you think about Smart Columbus and 95, 96 percent of the residents aren't going to have a clue what that means or what that impact is. The folks that have engaged I think understand the planning, understand it's being data driven but it's not something you're going to see up and down on the street every day.

The decision maker's understanding of how policy changes and initiatives are often slow to trickle down to benefit residents is incredibly important to note. Not only is the decision maker traditionally tasked with setting policy agendas for the city, but also play a role in developing expectations as to the long-term impacts of these changes on the health of the populations which they serve. From the decision maker perspective, interviewees noted the importance of incorporating the long-term mobility vision for Columbus (whether centered around Smart Columbus or otherwise) into plans for infant mortality reduction.

Frames were constructed based on frequency of coded word use, and context in which the word was used. As reflected in the coded words table and in the analysis of quotes used by interviewees, decision-makers placed a heavy emphasis on mobility issues as a primary policy

solution for the infant mortality crisis. The decision-makers' collective frame emphasized the importance of multiple mobility options as a means of accessing infant mortality resources, with an emphasis on the idea of increased city resource accessibility as a means of reducing infant mortality in Columbus neighborhoods. As a result, proposed policy solutions for those interviewed included first-and-last mile transportation concerns, alternatives to traditional mobility methods (including rideshare, electric or self-driving vehicles, scooters and bikes), and measures to improve bus routes and COTA use.

The coding of words from key informant interviews brought about two narratives regarding the infant mortality crisis. Although both centered around the issue of prenatal care and infant loss at their core, the narrative basis of service provider interviews told the story of a woman in need of social support and connections to her built environment. Use of the words "mother" and "service" gave context to a multi-faceted story of hardship, where mothers were often faced with multiple challenges over the course of their pregnancies. Not only did many mothers struggle with adequate nutrition, employment opportunities, stable housing, and safe relationships, but many were either uninformed of the community resources which were available or did not have reliable or trustworthy relationships with transportation to access opportunities. The discussion about infant mortality with service providers focused on the holistic wellness of a mother, discussing how both the built environment and the sociopolitical environment impacted a mother's ability to access the resources she needed for a healthy pregnancy and child.

Contrastingly, the narrative constructed by many decision-makers in Columbus took a more macro-level approach to the issue of infant mortality, telling the story of how mothers move about Columbus as a group to access the resources during pregnancy. The decision-makers interviewed provided a range of insight regarding the infant mortality crisis which included both current policies for transportation, efforts made by service providers and public resources, and narratives from mothers themselves about the hardships of pregnancy in neighborhoods like South Linden. This overarching understanding of the mobility landscape as well as the general needs of mothers in neighborhoods created a frame often far more diverse than that of the service providers in terms of areas of change and policy implementation. A focus on a transportation strategy was at the forefront of the discussion for many decision-makers, as transportation equity and accessibility was determined to be a means by which mothers could enjoy increased access to resources.

The focus which service providers placed on resource accessibility when constructing their framing of the issue of infant mortality in Columbus neighborhoods reflects a frame grounded in the Social Determinants of Health. Taking into consideration two of the largest contributors to South Linden infant mortality rates (smoking and unsafe sleeping conditions), service providers have created targeted policy campaigns to address the ways in which the Social Determinants of Health directly impact infant safety in Columbus neighborhoods. These campaigns include safe sleep accessibility measures, which allow mothers to receive free cradles when registering for other Franklin County benefits, and anti-smoking campaigns on the neighborhood level. These services are carried out alongside extended programming for mothers seeking social support and childcare education throughout their pregnancies, and into their first

year as a mother. As a result, their frame is grounded in evidence gathered from neighborhoods which consider how the built and social environment impacts infant safety and family wellness.

Decision-makers have constructed a frame for the issue of infant mortality which considers the Social Determinants of Health from an accessibility perspective, where changes to the mobility landscape are made in an attempt to increase equitable access to city resources and programs. In this way, mobility serves as a means to a more accessible end for decision makers. Decision-makers have utilized a framework which takes into consideration important resources (healthcare clinics, employment opportunities, etc.) and have focused on how individuals move about to connect with such resources. While this approach does not directly work with a Social Determinants of Health framework, a focus on mobility instead utilizes existing resources as a way to better understand how a connected environment may have an end result of improved social determinants in Columbus neighborhoods.

While service providers echoed the importance of resource accessibility and its role in infant mortality reduction, there were three key differences between their problem framing and that of the decision makers. It is important to note that all decision-makers interviewed were not directly affiliated with service providers such as Moms2Be or CelebrateOne, and that service providers interviewed were not affiliated with Smart Columbus or other decision-making entities. First, mobility resources which increase resource accessibility is only one facet of overall wellness, which service providers pinpointed as important in reducing infant mortality rates in Columbus neighborhoods. Other factors of importance which they noted as equally

important included safe sleep environment (both crib and house environment), smoking, access to healthy food, and overall neighborhood wellness. These factors were often affirmed by mothers in weekly appointments with service providers where needs were assessed throughout and after pregnancy.

Second, the concept of mobility had different implications when discussed with service providers. It was found that many mothers engaging with the service providers opted not to use the bus at all, but instead relied primarily on walking, rideshare, a friend with a car, or a personal vehicle to make it to and from meetings and appointments. The diversity of movement types throughout and outside of neighborhoods led to instability in accessibility for many mothers, reflected in their ability to consistently make weekly appointments. Third, service providers highlighted different mobility challenges than decision makers. Service providers spoke of the unreliable nature of rideshare vehicles, many of which required scheduling far in advance and with inflexible hours. Additionally, many mothers opted not to take buses due to fear of an unsafe environment, lack of shelter at bus stops, an inability to access necessary resources on current bus lines, and unreliable bus times. Those who walked to and from resources often noted the poor state of sidewalks in neighborhoods, and difficulty navigating spaces in the winter.

Overall, the framing by service providers placed more focus on the multiple facets of maternal health for which policy solutions could be developed-following guidelines from the social determinants of health-and less on mobility as the driving force in infant mortality reduction. Policy solutions included options for in-home nurse visits to reduce instability in

mobility access, education courses and open forums with COTA to better understand public transit resources, neighborhood resources for domestic violence, and connections to shelters and affordable housing for mother struggling with permanent residency.

While both the decision makers and service providers interviewed agree on the important role which access to mobility options has on reducing the infant mortality rates in neighborhoods such as South Linden, the frame disagreement occurs when mobility is named as the primary policy solution for infant mortality, as opposed to one tenant of a larger set of solutions for neighborhood health. This frame disagreement causes a mismatch in perceptions of how accessible resources in neighborhoods truly are, as mobility solutions proposed may not fit the highly specific needs of pregnant mothers in South Linden. While decision makers current support of Smart Columbus efforts to reduce infant mortality rates through more consistent bus times, prenatal shuttles, and bus stop information kiosks help drive the larger mobility vision for Columbus, they do little to acknowledge the breadth of other issues which often stop mothers from engaging in public transportation efforts in the first place, largely missing the demographic. The interviewed decision makers do not account for the insight provided by all Columbus decision-makers, many of who engage with CelebrateOne and other service providers directly and may contribute another perspective which considers both mobility and resource accessibility. Without reliable transportation which meets mothers where they are at in terms of perceptions of safety, efficiency, and accessibility, decision-makers efforts to connect mothers to resources outside of their neighborhoods may fall flat.

Given the thorough understanding of both the demographics of women in Columbus neighborhoods which struggle with high infant mortality rates, and the larger mobility vision for the City of Columbus as it continues to develop, frame reconciliation should be carried out between Columbus decision makers and service providers to ensure that the organizations not only share similar goals of reducing infant mortality rates, but that their policy solutions truly meet the needs of mothers who are impacted directly by city policies and programs. At its core, this process begins with ensuring that both groups have acknowledged the differences in their problem-setting and issue framing processes. That is, the identification of the systemic problem itself, and the ways in which the problem relates to an individual key informant's understanding of the sociopolitical reality of the problem must be communicated to the group to begin the process of frame reflection (Schön and Rein, 1994). Frame reflection demands that each informant/stakeholder group present share their own problem framing, coming to a collaborative consensus about where interpretations of the issue overlap within or between informant groups, and where misinterpretations or disagreements surrounding the issue lie (Schön and Rein, 1994). This conversational process helps decision makers and stakeholders to better understand cross-industry needs and goals, and eventually helps develop a common narrative around the policy problem itself.

Frame reconciliation could accomplished through a series of check-ins between the two groups to ensure that those who work directly with mothers can communicate needs to planners, legislators, and other officials who shape Columbus' policy priorities. It is recommended that these meetings are held in the neighborhoods themselves to encourage visibility of neighborhood-specific problems: the state of the built environment, housing and food

accessibility, and walkability of the neighborhood. Additionally, the voices of those involved with both the service provider and decision maker spheres (for example, decision makers who sit on service provider boards, like that of CelebrateOne) ought to be among the most valued in the issue framing process. These individuals possess insight into the policy priorities of both interest groups, and thus have the power to moderate the issue framing process in a unique way. In the case of this thesis, this group of issue framers has not been represented, and would likely have provided insight into how to facilitate the frame asymmetry between the two groups.

Conclusion

As public-private partnerships continue to enhance discussions on the best policy solutions to address "wicked problems", it is important to note that the different perspectives brought to the table by stakeholders must first be addressed before cohesive solutions can be proposed. In the case of Columbus, Ohio, the city approach to the infant mortality crisis in South Linden and other Columbus neighborhoods felt the effects of issue framing and asymmetry between decision makers and service providers, two groups working towards policy solutions. In the beginning, many officials came together through community health partnerships like CelebrateOne to define and study the problem of infant mortality in Columbus. However, the different experiences and agendas of decision-makers and service providers that evolved over time brought about differences in issue framing. Service providers constructed frames which aligned with identified Social Determinants of Health neighborhood indicators to assess and recommend changes to neighborhood practices, while decision-makers utilized a frame which relied on an understanding of the mobility landscape to connect individuals with resources which may impact the Social Determinants of Health in a neighborhood. Differences in issue framing

have the potential to bring about policy solutions which do not entirely address the "wicked problem" at hand or are reflective of different interpretations of how the problem is to be solved altogether. It is important that framing asymmetries are not considered failures in process, but opportunities to dig behind the objectives of collaboration. Misalignment in issue framing may occur due to different organizational values, knowledge of the policy issue itself, or due to resources available to a stakeholder during the problem framing process. To begin frame reconciliation, it is recommended that decision makers and service providers first spend time problem-setting as a group and developing a cohesive narrative for a shared issue frame. This ensures that that their collaborative abilities are being used in diverse ways to target the many prongs of the infant mortality crisis in Columbus neighborhoods. This approach will ensure that the social determinants of health, which address structural inequities in Columbus neighborhoods such as South Linden, are reflected at the neighborhood level in proposed policy solutions for sustainable changes in birth outcomes.

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